APPENDIX C

PROPOSAL PREPARATION, SUBMISSION, EVALUATION, SELECTION, AND IMPLEMENTATION

The information contained in this Appendix C augments and supersedes Appendix B and applies only to this NRA.

C.1 General Guidelines and Policies

C.1.1 Proposal Process

Proposers should submit a Notice of Intent to Propose (see the NRA Cover Letter and Section C.4) in order to facilitate the timely selection of peer review panels. Note that Notices of Intent are not required in order to propose for the FUSE GI program. Proposals may be submitted at any time before the proposal due date.

Proposals submitted in response to this NRA should provide the scientific justification and feasibility analysis, which form the basis for selection by NASA. Proposers who are awarded observing time, based on the evaluation process described in Section C.6 will subsequently be required to submit observation specifications following guidelines provided by the FUSE Project. These data will provide the FUSE Science Center with the detailed definition of each observation to be executed for the program. In addition, U.S. proposers will be invited to submit a budget based on funding guidelines provided by NASA – see Section C.8.

Submission of proposals in response to this NRA has three components:

(1) proposal summary information must be submitted through the designated NASA Web page and used to print the proposal's *Cover Page/Proposal Summary* (see Section C.2.2);
(2) the specified number of printed copies of the complete proposal, including a printed copy of the *Cover Page* signed by the PI, must be submitted to the address given in the NRA Summary of Solicitation (see Section C.5); and
(3) a FUSE Cycle 3 proposal template, also referred to as the Proposal Form, must be completed and submitted electronically (see Section C.2.3).

C.1.2 Who May Propose

Participation in the FUSE GI Program is open to all categories of U.S. and non-U.S. organizations, including educational institutions, industry, nonprofit institutions, NASA Centers, and other Government agencies. Each FUSE GI proposal must identify a single Principal Investigator (PI) who assumes full responsibility for the conduct of the scientific investigation. Proposal Co-Investigators must have well-defined roles in the investigation, which will be evaluated as part of the proposal review process.

Following selection by NASA, the FUSE Science Center at John Hopkins University (JHU) will communicate formally only with the PI (or his/her designee) of each proposal. It is this person's responsibility to provide JHU with the necessary data that defines each observation in a timely manner and to respond to any questions concerning observational constraints or configurations.

C.1.3 Canadian and French Observing Time

As part of their participation in and contribution to the FUSE mission, Canada and France each receive a minimum of 5% of the mission's observing time as defined in Letters of Agreement between NASA and their respective space agencies. This observing time will be selected competitively via the GI proposal peer review process described in this NRA. Scientists at Canadian and French institutions should follow the instructions in this Appendix for proposal preparation and submission. Note, however, that an institutional endorsement of the type described in the Section C.1.4 is not required for Canadian and French proposals submitted in response to this NRA.

C.1.4 Guidelines for other than Canadian and French Non-U.S. Participation

See Part (l) of Appendix B.

C.1.5 Late Proposals

NASA's general policy on late proposals is given in Part (g) of Appendix B and states that such a proposal may be considered only if it is judged to be in the best interests of the Government. Owing to the historically large over-subscription of proposals for this programs, a proposal submitted after the published deadline is unlikely to be considered of uniquely greater value to NASA than the proposals that are submitted on time. A proposal is considered to have been submitted on time only if all necessary components, including electronic material, have been received by the published deadline. Finally, note that processing delays at the proposer's home institution, the method of shipment of the proposal, or Internet delays do not excuse the late submission of a proposal.

C.2 Proposal Preparation

C.2.1 Proposal Format and Content

Proposals must be concisely written in English. The length of each section of the proposal should not exceed the page limits indicated below, using single-spaced 8.5x11 inch or A4 format paper with 1 inch (2.5 cm) margins. Proposals must be printed with a font size no smaller than 11 points (about 6 characters per cm). Reviewers will be instructed to base their review on only the portion of each proposal that complies with the page limits given below in this NRA. Double-sided copies are encouraged. Illustrations contained in the printed proposal may be in black & white or color.

C.2.2 *Cover Page/Proposal Summary*

All proposals must be prefaced by an integrated *Cover Page/Proposal Summary* that contains important, required information. This item is produced by first entering the requested information electronically through a NASA Peer Review Services (NPRS) Web site specified in this NRA's Summary of Solicitation and then printing this form by the proposer. Note that a sample of this Web form may be printed at any time for preliminary inspection. The printed copy of the electronically submitted form is then used to obtain the signature of the PI to submit with the original copy of the proposal.

The *Cover Page/Proposal Summary* includes the following information: Proposal title (both abbreviated and full length); PI name, institution, address, and telephone number; Co-I name(s) and institution(s); proposal summary (restricted to about one-half page of text); scientific category (see further below); and total requested observing time. This *Cover Page/Proposal Summary* must be signed by the PI and used as the preface of all submitted copies of the printed proposal (see Section C.5). An institutional signature is **not** required until a budget is submitted by proposers who are awarded observing time.

The last three digits of the identification number assigned to your proposal by the NASA Peer Review Services Web site must also be included in the required LaTeX proposal form. This identifier is displayed on the Web page and printed at the upper left-hand corner of the *Cover Page/Proposal Summary.* For example, in the proposal identifier "NRA-00-05-OSS-189," the ID number is the last three digits "189".

C.2.3 LaTeX Proposal Template

The FUSE proposal form uses an ASCII LaTeX file that allows the proposer to supply certain information for a set of keywords, including the proposed target list. Some keywords are required (e.g., proposal title, PI name and address, abstract, total observing time requested, etc.) and some are optional (e.g., special requirements). For proposers familiar with LaTeX, the proposal form may also be used to format the final printed proposal. Electronic submission of the LaTeX proposal form (without figures) is required of all proposers, since this file will be part of the database used to support the proposal review. Instructions for obtaining the proposal form are given in Section C.3, and submission procedures are described in Section C.5.

The FUSE LaTeX proposal form defines a number of sections, or subject areas, including the proposed target list and exposure times. These proposal sections are listed below and should be contained in the proposal in the order indicated.

Summary Information – Proposal summary information, the same as that submitted to the NASA Peer Review Services Web site for the *Cover Page/Proposal Summary*, must also be supplied in the LaTeX proposal form. In addition, the three-digit proposal identification number is required for the proposal form.

Scientific Category – Each proposal must identify one of nine primary research areas as listed below that is used to guide assignment of the proposal to the appropriate scientific review panel. These nine research areas (and some examples) are:

1. **Solar System objects** (planets, satellites, comets)
2. **Cool stars** (single and noninteracting binary systems)
3. **Hot stars** (O, B, and Wolf-Rayet stars, white dwarfs, central stars of planetary nebulae, including hot stars in the Magellanic Clouds)
4. **Interacting binary systems** (RS CVn systems, cataclysmic variables, symbiotic stars, mass-transfer binaries, novae)
5. **Stellar ejecta and gaseous nebulae** (circumstellar material, H II regions, planetary nebulae, supernova remnants, supernovae)
6. **Interstellar medium and galactic structure** (interstellar gas and dust, diffuse Galactic emission, Galactic halo, gas and dust in the Magellanic Clouds)
7. **Galaxies and extragalactic stellar populations** (excluding the Magellanic Clouds)
8. **Active Galactic Nuclei (AGN) and quasars**
9. **QSO absorption lines and the intergalactic medium**

Proposal Sections – The proposal must contain the following Sections and be addressed in the order indicated for each proposed observing program. The page length limits are indicated.

1. **Scientific Justification (3 pages)** – Fully describe the scientific objectives of the proposed investigation, clearly stating its goals, its significance to astronomy, and why FUSE data are essential to the investigation. The page limit includes all text, figures, tables, and references for this Section.

2. **Feasibility and Safety (2 pages)** – The proposed program must justify the need for the requested exposure time for each target, noting the required signal-to-noise ratio (S/N) and spectral resolution, expected flux, and any other information relevant to the observation (e.g., wavelength region of interest, spectral flux distribution, emission line intensities). This Section forms the basis for technical assessment of the feasibility of the proposed observations. Describe the basis for and accuracy of the flux estimates, including any assumptions made or extrapolations into the FUSE spectral range from other wavelengths.

3. **Description of Observations (1 page)** – Describe the observations. All special requirements (e.g., usage of MDRS or HIRS apertures, Target of Opportunity, monitoring program, specific aperture orientation) must be summarized and justified. These requirements encompass any information affecting the scheduling of the target, such as pointing constraints (e.g., observations at specific times), scheduling constraints (e.g., coordinated observations, phase coverage, contiguous observations, etc.), Targets of Opportunity, and basic moving target data. However, actual ephemeris data for Solar System targets are not required for this phase of the proposal process.

4. **Additional Information (1 page)** – This Section may be used to provide any relevant information concerning data analysis plans, modeling capabilities, plans for supporting observations to be conducted using other telescopes, etc.

5. **Previous FUSE Observing Programs (1 page)** – Summarize the status, results, and publications arising from FUSE observing time allocated to the PI in previous FUSE GI observing cycles. The presentation of this information for Co-I's is optional.

6. **Principal Investigator and Co-Investigator Biographical and Publication Data (1 page)** – An abbreviated biographical sketch for the PI should be provided and include a list of the most recent refereed publications relevant to the scientific proposal. Additional biographical or publication data may be provided for any of the Co-I's.

7. **Proposed Target List** – Each proposal must include a table of the proposed targets for observation that includes all the requested target and exposure information and parameters described in the instructions for the proposal template. Proposers are strongly encouraged to use the LaTeX proposal form to prepare this formatted table of targets and exposure times. In all cases, these data must also be submitted electronically using this template.

C.3 Obtaining the Phase 1 Proposal Form and Instructions

The FUSE LaTeX proposal form and style file may be retrieved automatically via email by sending a message to URL fuseprop@fusewww.gsfc.nasa.gov with the word "help" as the subject of the message. The necessary files will automatically be sent by E-mail. These files, plus the instructions for preparing the proposal form, are also available electronically from the FUSE GI Program Web site http://fusewww.gsfc.nasa.gov/fuse/ .

C.4 Notices of Intent to Propose

In order to expedite the proposal review process and the timely selection of scientific peer review panels, investigators intending to submit proposals for participation in this program should submit a Notice of Intent (NOI) to propose by the deadline to the Web address given in the NRA Summary of Solicitation. This NOI Web site will request the tentative title of the investigation, name and affiliation of the PI and any Co-I's, and a brief summary of the objectives of the proposed investigation.

C.5 Proposal Submission

A complete proposal submission consists of the following three steps.

1. Provide basic summary information through the NASA Peer Review Services Web site (see Letter of Solicitation) and print the *Cover Page/Proposal Summary*. Note that the proposal number in the upper left-hand corner of the *Cover Page* must be inserted it in the LaTeX proposal form in the appropriate keyword.

2. Send 12 printed copies of the proposal to the address given in the Summary of Solicitation. The PI must sign the printed *Cover Page/Proposal Summary* (see Section C.2.2) and attach it as the front of the proposal. Copies of the *Cover Page/Proposal Summary* must also be attached to the other 11 copies of the proposal that are be submitted (i.e., one original and 11 copies must be submitted).

3. E-mail the LaTeX proposal form to fuseprop@fusewww.gsfc.nasa.gov. An acknowledgment of receipt will be sent to the proposal submitter by return E-mail.

All printed and electronic proposal materials must arrive at the above address by the closing date given in the see Summary of Solicitation to this NRA in order to be included in the proposal review for this cycle of the FUSE Guest Investigator program.

C.6 Evaluation and Selection Process

All proposals submitted in response to this NRA by its deadline will be reviewed for their intrinsic merits, which for this NRA shall mean their scientific merit and technical feasibility (see Part (tbd) of Appendix B). Proposals will be evaluated in a competitive peer review conducted by NASA Headquarters using review panels organized by research area (see Section C.2.3 above). The panel membership will include scientists from the U.S., Canada, and France. Upon completion of the review by the individual panels, a final cross-discipline panel review chaired by a NASA HQ representative will synthesize the results of the individual panels. Based on these results, the FUSE Program Scientist will then develop a recommendation for the total program to be submitted to the Selection Official. The final proposal selection will be made by the Director, Research Program Management Division, Office of Space Science.

The following factors, listed in descending order of importance, will be used in evaluating proposals for their scientific merit and technical feasibility for the FUSE Guest Investigator Program. The weight of the first factor is approximately the same as the combined weight of the second and third, and is approximately twice the combined weight of the fourth and fifth:

1. The overall scientific merit of the proposed investigation;
2. The suitability and feasibility of using the FUSE observatory for the proposed investigation;
3. The feasibility of accomplishing the objectives of the investigation;
4. The data analysis plans;

5. The competence and relevant experience of the Principal Investigator and any collaborators to carry the investigation to a successful conclusion, including timely publication of the research in peer reviewed journals.

The scientific review panels will be given an assessment of the technical feasibility of each proposal as determined by the FUSE JHU team. After acceptance of an observing program by NASA, successful proposers must prepare detailed observing plans for submission to JHU, which are required for scheduling purposes. These plans, referred to as "Phase 2" plans, will again be assessed for feasibility. Should there be any question regarding the safety or feasibility of individual observations, the FUSE PI, in consultation with the FUSE Project Scientist, will make the final decision as to whether or not to attempt or postpone a particular observation, based on the latest information available regarding the satellite's on-orbit performance.

C.7 Other Conditions

NASA reserves the right to offer to select only a portion of a proposer's investigation, in which case the investigator will be given the opportunity to accept or decline such partial selection.

C.8 Funding for U.S. Investigators

Limited funds for awards under this NRA are expected to be available to investigators at U.S. institutions subject to the annual NASA budget cycle. Successful proposers at U.S. institutions, including U.S. Co-Investigators on successful non-U.S. proposals, will be eligible for funding. However, budgets should not be submitted with initial proposals submitted in response to this NRA. Instead, the selected investigators will receive a funding guideline from NASA based on the scope of the approved observing program and the available budget for the FUSE Cycle 3 GI program. An institutional signature will be required when a budget is submitted.